

# इंटरनेट

# मानक

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IS 7080-1 (1992): MTP Suction Apparatus, Part 1: Manually Operated [MHD 3: Obstetric and Gynaecological Instruments and Appliances]



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भारतीय मानक

एम. टी. पी. चूषण उपकरण — विशिष्ट

भाग 1 मानवचालित

( दूसरा पुनरीक्षण )

*Indian Standard*

**MTP SUCTION APPARATUS — SPECIFICATION**

**PART 1 MANUALLY OPERATED**

*( Second Revision )*

UDC 615.478.76-83

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**BUREAU OF INDIAN STANDARDS**

**MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG**

**NEW DELHI 110002**

## FOREWORD

This Indian Standard ( Part 1 ) ( Second Revision ) was adopted by the Bureau of Indian Standards, after the draft finalized by the Obstetric and Gynaecological Instruments and Appliances Sectional Committee had been approved by the Medical Equipment and Hospital Planning Division Council.

This Indian Standard on suction abortion apparatus was first published in 1973. It was revised in 1981 and published in two parts namely:

Specification for MTP suction apparatus

( Part 1 ) Manual and electrical

( Part 2 ) Electric-cum-manual

MTP suction apparatus is an important device used in connection with implementation of various family welfare programmes. Therefore, at the instance of the Ministry of Health and Family Welfare, this standard has been further revised to update its requirements and also to specify the latest technical developments. In this revision, the earlier Part 1 has been splitted into two parts namely:

Part 1 Manually operated

Part 2 Electrically operated

The requirements of Part 2 have also been revised in line with the other parts.

In the revised version of the standard of MTP Suction Apparatus the following changes have been made:

- a) The design and shape of the cannula has been changes to have more effiective suction performance;
- b) Requirement of vacuum in relation to the time have been specified; and
- c) Provision for providing one extra PVC tubing of 2 metre length and 8 mm diameter to be used with canuula has also been made.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 1960 'Rules for rounding off numerical values (*revised*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

*Indian Standard***MTP SUCTION APPARATUS — SPECIFICATION****PART 1 MANUALLY OPERATED***( Second Revision )***1 SCOPE**

**1.1** This standard (Part 1) covers the dimensional, performance and general requirements of manually (non-electrically) operated MTP suction apparatus together with the applicator required for medical termination of pregnancy.

**2 REFERENCES**

**2.1** The Indian Standards given in Annex A are necessary adjuncts to this standard.

**3 SHAPE AND DIMENSIONS****3.1 Cannula**

**3.1.1** The shape and dimensions of the cannula shall be as shown in Fig. 1. The right hand side end of the cannula is fitted into the tubing connected to the suction apparatus, either directly or through an appropriate holder which allows the cannula to rotate freely through 360°.

**3.1.2 Tolerances**

A tolerance of  $\pm 2.5$  percent shall be allowed on all dimensions.

**4 MATERIALS**

**4.0** Materials used for MTP suction apparatus shall be as follows.

**4.1 Metal Parts**

The metal components shall be constructed of steel having corrosion resistant properties or they shall be given durable surface finish suitable for giving adequate protection against corrosion under conditions of normal use.

**4.2 Rubber Components**

The rubber components shall be made of good quality natural or synthetic rubber and shall be capable of ageing in an air-oven for 168 hours at  $70 \pm 1^\circ\text{C}$  without showing appreciable stiffening, softening, cracking or other changes in condition.

**4.3 Glass Parts**

The glass parts shall be made of clear glass or borosilicate glass. They shall be free from visual defects and internal strains.

**4.4 Plastic Parts**

The raw material used for plastic parts shall be suitable for the purpose intended.

**4.5 Aluminium Parts**

Aluminium of required strength and properties suitable for the purpose intended shall be used. Aluminium parts shall be anodized.

**4.6 Cannula**

Stainless steel seamless drawn tube conforming to designation 04Cr19Ni9 or 07Cr19Ni9 of Schedule V of IS 1570 : 1961 or flexible Karman type conforming to IS 8313 : 1977.

**4.7 Tubing**

The tubing shall be of transparent PVC. It shall preferably be corrugated.

**5 CONSTRUCTION****5.1 Cannula**

The material for construction of cannula shall be as given in 4.6. It may or may not be provided with a holder to facilitate its holding and free rotation.

**5.2 Base**

The base may be made of fibre glass or any other suitable material and shall be of suitable section and thickness so as to provide stability and sturdiness. It shall have smooth edges and corners and shall have rubber supports at the bottom.

**5.3 Handle**

For convenience of holding and carrying the MTP unit, a suitable smooth handle shall be provided.

**6 GENERAL REQUIREMENTS**

**6.1** The MTP unit shall be so designed and constructed that it has adequate mechanical strength and shall withstand the requirements it is expected to perform in normal use.

**6.2** The design of MTP unit shall be such as to provide adequate stability. It shall not overturn when placed in unfavourable position such as inclined plane at an angle of  $10^\circ$  to the horizontal and shall continue to function satisfactorily.

**6.3** The tubing shall be non-collapsible under a pressure of 700 mm of Hg, and shall be transparent and smooth from inside. The tubing shall preferably be corrugated. Two pieces of tubing each of the minimum two metre length and 2 mm wall thickness shall be provided with each apparatus. The inner diameter of these tubes shall be 8 mm and 10 mm. The tubing shall have antistatic properties.

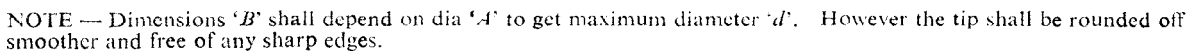


FIG. 1 CANNULA, MTP SUCTION APPARATUS

**NOTE** — It is important that continuity of contact between various metallic parts is maintained. To ensure this, the holes to receive rubber buffers should be drilled and tapped after stoving to remove any enamel or other insulating material as the antistatic properties of rubber buffers or lining could be destroyed by an insulating finish.

**7.4** The components made from brass shall be plated chromium over nickel in accordance with service Grade 2 of IS 4827 : 1983.

**7.5** All components and the housing made from mild steel or cast iron shall be either plated chromium over nickel in accordance with service Grade 2 of IS 1068 : 1985 or shall be painted in accordance with the procedure given in 7.5.1 to 7.5.3.

**7.5.1** The components shall be pickled, scrubbed and rinsed to remove grease, rust, scale or any other foreign matter.

**7.5.2** After pickling, all components shall be given phosphating treatment in accordance with IS 3618 : 1966, followed by a coat of suitable primer conforming to IS 2074 : 1979 for air drying process and IS 2075 : 1979 for stoving process. Filler shall be applied to all surfaces requiring filling.

**7.5.3** Two coats of enamel paint shall then be applied as follows:

- a) Undercoat, and
- b) Finish coat with synthetic stoving enamel conforming to IS 150 : 1950 or IS 151 : 1985, as required by the purchaser.

**7.5.3.1** The components shall thereafter be baked suitably in an oven. The resulting finish shall be free from all visible defects and shall satisfy the adhesion test in 8.1.

## 8 TESTS

### 8.1 Adhesion Test

A square measuring 12 to 15 mm shall be marked over conveniently selected spot on the painted surface. Cross lines, at a distance of 1 to 1.5 mm apart and inclined at 120°, shall be inscribed over the marked portion with a pointed instrument. Thereafter, cellulose tape shall be applied over

this portion and left for two minutes; after which it shall be jerked free from the painted surface. If more than 5 percent of the squares are ripped away from the painted surface and are adhering to the cellulose tape, the whole surface of the apparatus shall be repainted and again subjected to this test now at two conveniently selected spots and the item considered passing only if found satisfactory in both the cases.

**8.2** The complete system shall be checked for leakproofness. There shall be no leakage of vacuum in the apparatus.

**8.3** The tubings shall be capable of withstanding a vacuum of 700 mm of Hg without collapsing.

**8.4** The unit shall be capable of giving a vacuum of 650 mm of mercury column within 12 strokes of the piston of the pump when measured up to 200 metres above the mean sea level.

### 8.5 Corrosion Resistance Test of Metal Cannula

Test the cannula in accordance with IS 7531 : 1990. The cannula shall show no sign of corrosion after the test.

**8.6** The glass/plastic bottle shall be capable of repeated steam sterilization at 120°C.

## 9 MARKING

**9.1** The unit shall be marked with the indication of the source of manufacture.

**9.2** Cannula shall also be marked with the indication of the source of manufacture and size number and 'SS' if made of stainless steel.

## 10 PACKING

**10.1** The MTP suction apparatus shall be packed as agreed to between the purchaser and the supplier. Care shall be taken to ensure that there is no contact between different components and that it is not damaged during transportation.

## ANNEX A

### LIST OF REFERRED INDIAN STANDARDS

IS No.	Title	IS No.	Title
150 : 1950	Ready mixed paint, brushing, finishing stoving for enamel colour as required	2075 : 1979	Ready mixed paint, stoving, red oxide-zinc chrome, priming ( <i>first revision</i> )
151 : 1985	Ready mixed paint, spraying, finishing, stoving enamel, for general purposes, colour as required ( <i>first revision</i> )	3618 : 1966	Phosphate treatment of iron and steel for protection against corrosion
1068 : 1985	Electroplated coatings of nickel plus chromium and copper plus nickel plus chromium on iron and steel ( <i>second revision</i> )	3624 : 1987	Pressure and vacuum gauges ( <i>second revision</i> )
1570 : 1961	Schedules for wrought steels for general engineering purposes	4827 : 1983	Electroplated coatings of nickel and chromium on copper and copper alloys ( <i>first revision</i> )
2074 : 1979	Ready mixed paint, air drying, red oxide-zinc chrome, priming ( <i>first revision</i> )	7531 : 1990	Methods for testing for corrosion resistance of stainless steel surgical instruments ( <i>first revision</i> )
		8313 : 1977	Cannula, flexible, Karman type



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